

**IDENTIFICATION OF DIFFERENT
MORPHOLOGICAL AND AGRONOMICAL TRAITS
IN AVAILABLE LANDRACES OF PUNGENT
CHILLI (*Capsicum chinense* Jacq)**

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ABSTRACT

Morphological and Agronomical traits are widely used to study the diversity in *Capsicum* species, to determine the relationship between various species and to develop an identification key. *Capsicum chinense* Jacq ("Nai Miris") species are still not properly characterized because traditionally greatest attention has been directed at *Capsicum annum* species. Hence present study was undertaken to explore the morphological and agronomical diversity of *Capsicum chinense* Jacq. Thirty three morphological traits and fourteen agronomical traits considered for 48 accessions germinated from 112 *Capsicum* accessions. Based on the results of 48 *Capsicum* accessions, there were no duplicated accessions within the studied accessions. The traits that largely contributed to the variability within and between the accessions included corolla colour, anther colour, fruit colour at intermediate stage, fruit colour at mature stage, fruit shape, mature leaf length, mature leaf width, number of days for flowering, number of days for fruiting, fruit length, fruit wall thickness, fruit weight and 1000 seeds weight. Cluster analysis showed that there are three major clusters in germplasm collection of *Capsicum*. One major cluster consisted with 23 accessions of pungent chilli accessions of *Capsicum chinense* Jacq having useful and most common characteristics; annular constriction of calyx and clusters of flowers or fruits at node are exclusively found in the *Capsicum chinense* Jacq accessions. The twenty three accessions divided in to seven sub clusters and showed wide genetic diversity that exists in *Capsicum chinense* ("Nai Miris") germplasm.

Key words: Morphological traits, Agronomical traits, *Capsicum chinense* Jacq, Cluster analysis, Genetic diversity